UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,393	09/27/2000	Gaurav Sharma	XER-2-0318	7084

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Albert P Sharpe III Esq
Fay Sharpe Fagan Minnich & McGee LLP
1100 Superior Avenue
7th Floor
Cleveland, OH 44114-2518

EXAMINER
THOMPSON, JAMES A

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Advisory Action **Before the Filing of an Appeal Brief**	09/671,393	SHARMA ET AL.
	Examiner	**Art Unit**	
	James A Thompson	2624	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED <u>25 January 2005</u> FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

<u>NOTICE OF APPEAL</u>

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

<u>AMENDMENTS</u>

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will <u>not</u> be entered because

   (a)☒ They raise new issues that would require further consideration and/or search (see NOTE below);

   (b)☐ They raise the issue of new matter (see NOTE below);

   (c)☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d)☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: *see attached.* (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *1-23*.

   Claim(s) withdrawn from consideration: _____.

<u>AFFIDAVIT OR OTHER EVIDENCE</u>

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will <u>not</u> be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will <u>not</u> be entered because the affidavit or other evidence failed to overcome <u>all</u> rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

<u>REQUEST FOR RECONSIDERATION/OTHER</u>

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: <u>see attached.</u>

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____

13. ☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-303 (Rev. 9-04)   **Advisory Action Before the Filing of an Appeal Brief**   Part of Paper No. 20050202

Response to Amendment

1. The proposed amendments to the claims have not been entered. Said amendments raise new issues that would require further consideration and further search.

Response to Arguments

2. Applicant's arguments filed 25 January 2005 have been fully considered but they are not persuasive.

Regarding pages 7 and 8: Knox (US Patent 5,646,744) clearly determines how much of the image data density shows through and how much is absorbed. Knox may not refer to the density and absorption using those precise words, but Knox does in fact teach density and absorption. Knox teaches the density and absorption, which is shown directly through the equations listed in column 6, lines 55-67 of Knox, as cited on page 5 of the final rejection, dated 29 November 2004. The density of the front side image is given by A(x) and the density of the back side image is given by B(x). The density of the resulting image from scanning the from side is given by P(x). The absorption of the image of the back side is given by the factor f in the equation for P(x) since $P(x) = \dfrac{A(x) + fB(-x)}{1 + f}$. The value of f describes the contrast level of the show-through portion of the image. The amount by which the show-through image from the back side contrasts with the image from the front side is a measure of how much the back side image is absorbed by the paper since, if there is no absorption, then there will be no contrast between the front side image and the see-through image from the back side.

The teaching of the referenced portions of Balanis
(*Advanced Engineering Electromagnetics*, John Wiley & Sons, ©
1989) is not "a theoretical model of a system with a narrow
scope" as Applicant contends. In fact, the teachings of the
referenced portions of Balanis describe the basic principle of
reflections from multiple boundaries. There is no particular
system taught. What is taught by Balanis is that the
reflections of multiple layers can be represented by a single
equivalent reflection coefficient Γ_{in}. Further, Balanis does
account for absorption and scatter and does teach that the
layers can be from lossy or lossless materials. Figure 5.20 of
Balanis shows multiple layers, each with particular electro-
magnetic characteristics (ε, μ, η). The value of ε is the
permittivity of the material. If the value of ε is a complex
value, such as $(1.1 - 0.1i)\varepsilon_0$ where i is the square root of -1 and ε_0
is the permittivity of free space, then the material layer in
question is indeed lossy. Figure 5.20 shows a general setup of
multiple layers. Further, Applicant states that "if electro-
magnetic radiation were to be lost within the distance d_1, the
resultant reflection Γ_1 would be less intense than if there were
no loss, as would the aggregate reflection from all layers Γ_{in}."
First, this statement begs the question "what values of
permittivity are being referred to for the layer?" If the
magnitude of the permittivity is the same for the lossless case
as for the lossy, and assuming all other factors are kept
constant, the magnitude of the reflection is the same. The only
difference is the time delay (phase in frequency domain) of the
reflection. Additionally, even if the reflections were less
intense, this does not alter the principle teaching of Balanis

that is being relied upon, specifically the teaching that
multiple layers can be represented with a single equivalent
reflection value.

Regarding page 9, lines 1-18: Matsuda (US Patent
5,677,776) and Knox are closely related since both references
teach aspects of the control and correction of scanned image
data, as specifically discussed on page 5, lines 7-9 of said
final rejection. Matsuda does not specifically address the
problem of show-through because that is not the particular form
of scanned image data correction that Matsuda wishes to correct
with the invention disclosed in Matsuda. However, show-through
problems in image scanning do occur. The mere fact that Matsuda
does not discuss does not mean that a practitioner of the art
would not wish to address this issue since such problems do
routinely occur in image scanning. Because of the problem of
show-through in image scanning, Knox invented a means of show-
through correction. It is not required under 35 U.S.C. §103
that *both* references specifically teach the limitations and that
both provide the requisite motivation. Knox teaches limitations
that Matsuda does not specifically address and provides one of
ordinary skill in the art a motivation to combine Matsuda and
Knox, as discussed on page 4, line 7 to page 5, line 16 of said
final rejection. One of ordinary skill in the art who has both
the Matsuda and the Knox reference would therefore be motivated
to combine the two references to correct for show-through, as
taught by Knox, in a scanning system taught by Matsuda.

Regarding page 9, lines 19-31: The scanning systems of
Matsuda and Knox do not have to be exactly the same in order to
apply the show-through correction taught by Knox to the scanning
system taught by Matsuda. While it is true that one clearly

cannot feed a book through the simplex/duplex paths of the
scanning device taught by Knox, one can scan a front side, a
back side, and an adjacent side of a book using the scanner
taught by Matsuda and apply the show-through correction taught
by Knox. *Applicant argues* that "[i]n Matsuda, the user would
have to turn the page, leaving many uncontrolled variables...".
Examiner replies that (1) there are methods that exist by which
one of ordinary skill in the art can align the scanned data of
the front side, the back side, and the adjacent side and (2) the
possible problem of the "uncontrolled variables" is beyond the
scope of the claim limitations as currently filed, and thus does
not need to be specifically addressed by Matsuda, Knox or
Balanis. Although the claims are interpreted in light of the
specification, limitations from the specification are not read
into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26
USPQ2d 1057 (Fed. Cir. 1993).

Regarding page 9, line 32 to page 10, line 16: Matsuda
discloses the scanning of a book, which has multiple layers, and
thus reflections from said layers. Knox teaches the problem of
show-through and is combined with Matsuda, as discussed above.
The mere fact that Matsuda does not teach that said reflections
are a problem does not negate the fact that one of ordinary
skill in the art may wish to solve this problem by combining the
teachings of Knox with Matsuda, since Knox does teach show-
through correction. Balanis teaches reflections from multiple
layers, thus demonstrating that, for the book scanned in the
teachings of Matsuda which do have multiple layers, there are
further reflections for which to account.

As discussed above, Balanis does teach reflections from
both lossy and lossless materials. However, even if the

materials were lossless, the magnitude of the reflection
coefficients are still less than one, thus demonstrating
absorption of the light waves in the media. The teachings of
Balanis are basic in the art since said teachings involve the
nature of electromagnetic reflections. Without knowledge of
electromagnetic reflections, one of ordinary skill in the art
would have no physical basis by which to design image processing
devices. Therefore, the teachings of Balanis are clearly *not*,
as Applicant contends, "too theoretical and presumptive to be
useful to the skilled artisan". Further, as is well-known in
the art, all substances, and even empty space, have a dielectric
constant. Air is a dielectric whose permittivity has been
measured as $1.0006 * \varepsilon_0$, where ε_0 is the permittivity (dielectric
constant) of free space. Therefore, Balanis does in fact teach
reflections due to air between the pages. The layers of air are
simply modeled with the appropriate permittivity. Further, the
basic teaching of Balanis that reflections from multiple layers
can be quantified with a single equivalent constant is the key
teaching that is applied to Matsuda in view of Knox, and thus
does not need to specifically address any possible interleaving
air spaces. The overall result of the reflections, and not the
particular reflection coefficient of each individual layer, is
the teaching that is used.

Regarding page 10, line 18 to page 11, line 14: The
combination of Matsuda, Knox and Balanis do indeed fully teach
the limitations of the claims as currently filed. The specific
limitations and the combination of the references discussed by
Applicant in this section of Applicant's arguments have been
thoroughly discussed above.

Regarding page 11, lines 15-17: Claim 2 has been amended such that further search and further consideration will be required. Therefore, the amendments to claim 2 will not be entered.

Regarding page 11, line 18 to page 12, line 9: Again, the combination of Matsuda, Knox and Balanis do indeed fully teach the limitations of the claims as currently filed, which has been discussed in detail above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Art Unit 2624

JAT
02 February 2005

THOMAS D.
LEE
PRIMARY EXAMINER